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10/535,321	05/18/2005	Kamaljit Singh Chana	05-351	5736

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EXAMINER

JAGAN, MIRELLYS

ART UNIT	PAPER NUMBER
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2859

MAIL DATE	DELIVERY MODE
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05/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/535,321

Applicant(s)

CHANA, KAMALJIT SINGH

Examiner

Mirellys Jagan

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-24 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 8, 11 and 18 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 7, 9, 10, 12, 13 and 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/22/07.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-10 and 15-17 are objected to because of the following informalities:

In claim 1, "which" should be changed to --the-- in line 6.

Claims 2-10 and 15-17 are objected to for being dependent on objected base claim 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5, 8, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,879,082 to Smitherman et al [hereinafter Smitherman].

Smitherman discloses an apparatus for use in measuring the temperature of a flowing fluid, the apparatus comprising:

a structure bearing two temperature sensitive elements (22, 24) adapted to be temporarily exposed to the fluid and not having means for substantially preheating one of the elements relative to the other;

means for monitoring the respective temperatures of said elements over a period; and

Art Unit: 2859

computational means to derive from respective changes of temperature of said elements the respective heat transfer rates experienced thereby and to derive the temperature of the fluid from a relationship of the temperatures of said elements and the derived heat transfer rates;

wherein the structure provides respective regions (at 22 and at 24) for the diffusion of heat from the fluid through the respective said elements; the thermal products (alumina ceramic at 22, no alumina ceramic at 24) within the regions differ such that the elements experience different heat transfer rates when exposed to the same fluid temperature; the elements are thin film resistance thermometers; and the structure has a member of a selected material (alumina ceramic) the thickness of which differs in the respective regions; the cavity contains a gas (air) (see figure 3; column 2, lines 4-9; column 5, lines 16-18, 21-24, 61-64; column 6, lines 15-19, 34-42).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smitherman in view of U.S. Patent 5,718,512 to Ngo-Beelmann.

Smitherman discloses a method having all of the limitations of claim 18, as stated above in paragraph 3, and further discloses that the method is for measuring the temperature of a gas flowing through a conduit in an industrial plant.

Art Unit: 2859

Smitherman does not disclose the conduit being a gas turbine engine.

However, Ngo-Beelmann teaches that it is desirable to use a temperature sensor in a gas turbine engine in order to prevent the engine from failing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Smitherman by performing the method in a gas turbine engine since Smitherman teaches that the temperature sensor is useful for measuring high-temperature gas flows, and since Ngo-Beelmann teaches that it is well known to measure the temperature of a high-temperature gas in a turbine engine (e.g., in order to prevent the engine from failing).

Allowable Subject Matter

6. Claims 19-24 are allowed.

7. Claims 4, 6, 7, 9, 10, 12, 13, and 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if claims 4, 6, 9, 12, 13, and 15-17 are rewritten in independent form including all of the limitations of the base claim and any intervening claims, and base claim 1 is amended to overcome the objection presented in this Office action.

8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or suggest the following in combination with the remaining limitations of the claims:

An apparatus for measuring the temperature of a flowing fluid, wherein a first of the temperature sensitive elements is borne on part of the surface of said member which overlies said

Art Unit: 2859

cavity, and the second of the temperature sensitive elements is borne on part of the surface of said member which does not overly said cavity (see claim 4); a first of the temperature sensitive elements is borne on part of the surface of the said tubular member which overlies said cavity, and the second of the temperature sensitive elements is borne on part of the surface of said tubular member which overlies said member of second material (see claim 6); a first of the temperature sensitive elements is borne on part of the surface of said member at said first location, and the second of the temperature sensitive elements is borne on part of the surface of said member at said second location (see claim 9); the computational means is adapted to derive the temperature of the fluid using the claimed relationship (see claim 15); or derive the respective heat transfer rates using the claimed relationship (see claim 16); or wherein the temperature sensitive elements are borne on a lateral surface of said structure such that the elements can face the direction of flow (see claim 17).

A method of measuring the temperature of a fluid, wherein the temperature of the fluid is derived using the claimed relationship (see claim 12); or the respective heat transfer rates are derived using the claimed relationship (see claim 13).

A device for use in measuring the temperature of a fluid wherein a first of the temperature sensitive elements is borne on part of the surface of the said tubular member which overlies said cavity, and the second of the temperature sensitive elements is borne on part of the surface of said tubular member which overlies said member of second material (see claim 19).

A method of measuring the temperature of a fluid, wherein the temperature sensitive elements are borne on a curved surface of the structure and the respective heat transfer rates are derived using the claimed relationship (see claim 21).

Art Unit: 2859

An apparatus for measuring the temperature of a fluid, wherein the temperature sensitive elements are borne on a curved surface of the structure and the respective heat transfer rates are derived using the claimed relationship (see claim 22).

A device for use in measuring the temperature of a flowing fluid, the device comprising a structure, wherein the structure bears two temperature sensitive elements on a curved lateral surface thereof (see claim 23).

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2859


however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Friday from 11AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJ
May 9, 2007



Diego Gutierrez
Supervisory Patent Examiner
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